

REMARKS

There remains pending in the application claims 7-14, of which claim 7 is independent. No claims have been added or cancelled.

As amended, claim 7 now recites an image heating apparatus comprising an endless belt together with heating means for heating a belt, a first rotatable member for rotatably supporting the belt, the first rotatable member having an elastic layer with an outer diameter which is larger in a longitudinal central portion and in the opposite longitudinal end portions, and a second rotatable member disposed opposed to the first rotatable member with the belt between them, wherein the second rotatable member cooperates with the first rotatable member to form a nip in which the image on the recording material is heated. Urging means are provided for urging toward the second rotatable member, opposite ends of the rotational shaft of the first rotatable member. The invention as recited in claim 7 is characterized in that the nip has a width which is larger in the opposite longitudinal end portion than in the longitudinal central portion while in a state before the elastic layer thermally expands by the heating operation of the apparatus.

Claim 7 had been rejected under 35 U.S.C. § 102(b) as being anticipated by Takaizawa et al. (U.S. Patent No. 4,682,878). In view of the above amendments and the reasons which follow, the rejections are respectfully traversed.

In the apparatus to which Applicants' invention is directed it is preferable that an elastic layer be provided on the first rotatable member to increase its width and that the outer diameter of that first rotatable member be larger in the central portion than in the opposite longitudinal end portions in consideration of the fact that the first rotatable member is urged at

the opposite end portions. However, problems arise in such structures. More specifically, there may arise a problem that the nip width becomes larger in the central portion than on the opposite longitudinal end portions as a result of the heating operation of the image heating apparatus. As a result, the present invention provides for the added feature of the nip having a width which is larger in the opposite longitudinal end portions than in the longitudinal central portion in a state before the elastic layer thermally expands by the heating operation of the elastic apparatus. As a result of this combination of features, solutions to the above problem are present.

Takaizawa et al. is directed to a fixing device where pressure is applied to the copying paper by a pressure applying device including an endless belt supported by a pair of spaced rollers which are mounted on a slidable plate. In Figure 7 there is illustrated a preferred example of crowned rollers around which an endless belt passes. Thus there is a fixing roller 3 with a crown shape and which corresponds to a fixing roller 1 which is reversely crowned so as to provide a pressure in the nip which is uniform throughout the longitudinal direction.

However, there is nothing in this reference which teaches or suggests the width of the nip as called for by the claims of the present invention. Thus there is no teaching or suggestion that the nip has a width which is larger in the opposite longitudinal ends than in the longitudinal central portion in a state before the elastic layer thermally expands by the heating operation of the apparatus. Applicants therefore respectfully submit that claim 7 is neither taught nor suggested by the applied reference.

The remaining claims in the above application are dependent claims which depend either directly or indirectly from claim 7 and are therefore patentable over the art of record for reasons noted above with respect to claim 7. In addition, each recite features of the

invention still further distinguishing it from the applied art. Favorable and independent consideration thereof is respectfully sought.

Applicants respectfully submit that all outstanding matters in the above application have been addressed and that this application is in condition for allowance. Favorable reconsideration and early passage to issue of the above application are respectfully sought.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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